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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,103	11/21/2003	Jang-Kun Song	AB-1346 US	1943

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EXAMINER

BRIGGS, NATHANAEL R

ART UNIT	PAPER NUMBER
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2871

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/719,103

Applicant(s)

SONG, JANG-KUN

Examiner

Nathanael R. Briggs

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 31-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/1/2006 have been fully considered but they are not persuasive.
2. Regarding claims 1-16 and 31-32, Applicant alleges that *Miyazaki (a)* cannot teach, "a spacer disposed on the overlapped area between the first color filter and the adjacent second color filter, the spacer having the same material as one of the first color filter and the second color filter". Applicant argues that adjacent color filters overlaps since the disclosure specifically teaches, the "color layers 2 which are 2R, 2G, and 2B", "the color layers 2 are positioned at a distance from the spacers 3" (*Miyazaki (a)*; US 5,969,784), and that none of the drawings show an overlapped structure. However, Examiner notes that figure 11(c) of *Miyazaki (a)* shows the claimed overlapped structure, and in fact, *Miyazaki (a)* specifically discloses (column 11, lines 1-3), "When a spacer includes more than three spacer layers, the spacer can include a spacer layer which is connected to the color layer." Therefore, *Miyazaki (a)* does indeed disclose adjacent overlapping color filters (see figure 11(c), 2R, 3R, 3G, 2G) comprising a spacer (3R, 3G, 3B), the spacer having the same material as one of the first color filter (2R) and the second color filter (2G). This is the second embodiment of *Miyazaki (a)* (column 11, lines 38-47), wherein Applicant argued according to the first embodiment. Applicant's arguments are therefore not persuasive.

Claim Rejections - 35 USC § 102

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 2, 31, and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyazaki et al. (US 5,969,784).**

5. Regarding claim 1, Miyazaki discloses an LCD apparatus (see figures 5, 11(c) and 12, for instance) having a first panel (10) including: a first transparent substrate (1) having a pixel area (13); a thin film transistor (31) disposed at the pixel area (13) so as to output a pixel voltage; a first color filter (2R) disposed at the pixel area, the first color filter (2R) having a first edge (3R); a second color filter (2G) disposed adjacent to the first color filter (2R) and having a second edge (3G), the first edge (3R) and the second edge (3G) being overlapped to provide an overlapped area (3) between the first color filter (2R) and the second color filter (2G); a spacer (3B, 3G, 3R) disposed on the overlapped area (3) between the first color filter (2R) and the adjacent second color filter (2G), the spacer (3B, 3G, 3R) having a same material as one of the first color filter (2R) and the second color filter (2G); and a pixel electrode (5) disposed on the first color filter (2R; column 11, lines 28-35) so as to receive the pixel voltage; a second panel (50) including: a second transparent substrate (11); and a common electrode (65) disposed

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on the second transparent substrate (11), and a liquid crystal layer (7) disposed between the first (10) and second (50) panels. Claim 1 is therefore unpatentable.

6. Regarding claim 2, Miyazaki discloses the LCD apparatus of claim 1 (see figures 5, 11(c) and 12, for instance), where the first color filter (2R) comprises a red, green, and a blue color filter (R, G, B) and the spacer comprises at least one of a red, green, and blue filter (3G, 3R, 3B). Claim 2 is therefore unpatentable.

7. Regarding claims 31 and 32, Miyazaki discloses the LCD apparatus of claim 1 (see figures 5, 11(c) and 12, for instance), wherein the spacer (3B, 3R, 3G) has a column shape, the spacer (3B, 3R, 3G) being configured to maintain a cell gap between the first substrate (1) and the second substrate (11). Claim 31 is therefore unpatentable.

8. Regarding claim 32, Miyazaki discloses the LCD apparatus of claim 1 (see figures 3 and 11(c), for instance), wherein the common electrode (65) makes direct contact with the spacer (3B, 3R, 3G). Claim 32 is therefore unpatentable.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 3, 5, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki et al. (US 5,969,784, hereafter Miyazaki (a)) in view of Miyazaki et al. (US 5,757,451, hereafter Miyazaki (b)).**

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11. Regarding claims 3, 5, 7, and 9, Miyazaki (a) discloses the LCD of claim 1 (see figures 3 and 11(c), for instance) including a light blocking pattern (4) in the form of a lattice-shape of a photo-sensitive pattern (column 6, lines 25-34), where the pattern blocks light incident between the pixel area (13) and an adjacent pixel. However, Miyazaki (a) does not expressly disclose wherein the light-blocking pattern is disposed on the second panel on the common electrode.

12. Regarding claims 3, 5, 7, and 9, Miyazaki (b) discloses an LCD (see figure 1, for instance) where the second panel comprises a light-blocking pattern (36) having a lattice-shape (column 5, lines 2-3) of a photo-sensitive pattern (column 11, lines 21-25) disposed on the common electrode (34), where the pattern blocks light incident between the pixel area and an adjacent pixel.

13. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the light-blocking pattern of Miyazaki (b) in the LCD of Miyazaki (a). The motivation for doing so would have been to build an inexpensive color display of high quality and high yield using stacked color filters as spacers, as exemplified by the LCD of Miyazaki (b) (column 2, lines 48-53). Claims 3, 5, 7, and 9 are therefore unpatentable.

14. Claims 4, 6, 8, 10-11, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki (a) (US 5,969,784) in view of Miyazaki (b) et al. (US 5,757,451) as applied to claims 3, 5, 7, and 9 above, and further in view of Yamada (US 6,140,988).

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15. Regarding claims 4, 6, 8, 10-11, 13, and 15, Miyazaki (a) in view of Miyazaki (b) discloses the LCD of claims 1 and 2 (see Miyazaki (a) figures 3 and 11(c) and Miyazaki (b) figure 1, for instance), and Miyazaki (a) discloses wherein the LCD has a liquid crystal layer (7) and light visual pattern on the common electrode (65). However, the references fail to specifically disclose the liquid crystal molecules being vertically aligned.

16. Yamada discloses an LCD apparatus where the liquid crystal molecules being vertically aligned (col. 1, lines 29-39).

17. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the liquid crystal molecules being vertically aligned since one would be motivated to provide a display apparatus with high contrast and outstanding viewing angle characteristics (col. 1, lines 39-45). Claims 4, 6, 8, 10-11, 13, and 15 are therefore unpatentable.

18. Claims 12, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyazaki (a) (US 5,969,784) in view of Miyazaki (b) et al. (US 5,757,451) and further in view of Yamada (US 6,140,988) as applied to claims 4, 6, 8, 10-11, 13, and 15 above, and further in view of Iida et al. (US 5,801,797).

19. Regarding claims 12, 14, and 16, Miyazaki (a) in view of Miyazaki (b) and in further view of Yamada discloses the LCD as recited above (see Miyazaki (a) figures 3 and 11(c), Miyazaki (b) figure 1, for instance). However, the references fail to specifically disclose the second panel further comprising transparent spacers disposed on the common electrode.

20. lida discloses an LCD device having spacers made of transparent resin (col. 13, lines 52).

21. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the second substrate further comprising transparent spacers disposed on the common electrode since one would have been motivated to provide a display having a large display area in which no display-impossible region is formed (col. 13, lines 55-59). Claims 12, 14, and 16 are therefore unpatentable.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathanael R. Briggs whose telephone number is (571)

272-8992. The examiner can normally be reached on 9 AM - 5:30 PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathanael Briggs
2/12/2007


ANDREW SCHECHTER
PRIMARY EXAMINER